

Claims:

- 1 1. A method for calibrating a gap measuring tool comprising:
  - 2 providing a calibration standard including a mock disc and a mock slider with a plurality
  - 3 of bracing beams, each of said beams having a known respective length and said plurality of
  - 4 beams separating and maintaining a space between said slider and said disc;
  - 5 determining an actual distance between said slider and said disc at a plurality of locations
  - 6 based on the known respective lengths of the beams;
  - 7 determining an observed distance between said slider and said disc at one or more of said
  - 8 locations; and
  - 9 comparing said observed distance to said actual distance at each of said locations.
- 1 2. The method of claim 1, wherein said space between said slider and said disc is a 'wedge'-  
2 shaped space.
- 1 3. The method of claim 1, wherein said gap measuring tool is a hard disc drive head flying  
2 height tester.
- 1 4. The method of claim 1, further comprising:
  - 2 adjusting said gap measuring tool based on said comparing said observed distance to said
  - 3 actual distance.

- 1 5. The method of claim 1, further comprising:  
2 determining a differential between said observed distance and said actual distance; and  
3 adjusting said gap measuring tool based on said differential.
- 1 6. The method of claim 1, further comprising:  
2 providing a suspension arm to secure the slider to the disc and to maintain the slider's  
3 position with respect to the disc.
- 1 7. The method of claim 6, wherein said suspension arm includes a number of locating pins  
2 capable of accepting and maintaining said slider in a proper orientation with respect to said disc,  
3 said disc being pressed against said disc by said suspension arm.
- 1 8. The method of claim 6, wherein said slider and said suspension arm are generally  
2 enclosed within said calibration standard.
- 1 9. The method of claim 1, wherein said bracing beams are Pattern Diamond-Like Carbon  
2 (PDLC).
- 1 10. The method of claim 1, wherein said mock slider is a magnetic head/slider substrate.
- 1 11. The method of claim 10, wherein said slider includes a film of overcoat.

- 1    12.    The method of claim 1, wherein said mock disc is an optically transparent disc.
- 1    13.    The method of claim 12, wherein said disc is glass.
- 1    14.    The method of claim 1, wherein said determining said observed distance between said  
2    slider and said disc is performed by optical interference techniques.
- 1    15.    The method of claim 14, further comprising:  
2            providing one or more measurement scale markings upon a surface of said slider facing  
3    said disc, each of said markings associated to a respective actual distance from said disc.
- 1    16.    The method of claim 15, wherein said comparing said observed distance to said actual  
2    distance includes comparing the actual distance associated to a scale marking to an observed  
3    distance at that location.
- 1    17.    A system for calibrating a gap measuring tool comprising:  
2            a calibration standard including a mock disc and a mock slider, said mock slider  
3    including a plurality of bracing beams, wherein  
4            each of said beams is of a known respective length, said respective length for determining  
5    an actual distance between said slider and said disc at a plurality of locations;

6           said plurality of beams is to separate and maintain a space between said slider and said  
7 disc; and

8           said calibration standard is for determining an observed distance between said slider and  
9 said disc at one or more of said locations for a comparison between said observed distance and  
10 said actual distance at each of said locations.

1   18.    The system of claim 17, wherein said space between said slider and said disc is a  
2 'wedge'-shaped space.

1   19.    The system of claim 17, wherein said gap measuring tool is a hard disc drive head flying  
2 height tester.

1   20.    The system of claim 17, wherein said gap measuring tool is to be adjusted based on said  
2 comparison between said observed distance and said actual distance.

1   21.    The system of claim 17, wherein a differential between said observed distance and said  
2 actual distance is to be used for adjusting said gap measuring tool.

1   22.    The system of claim 17, wherein a suspension arm is to secure the slider to the disc and is  
2 used to maintain the slider's position with respect to the disc.

1 23. The system of claim 22, wherein said suspension arm includes a number of locating pins  
2 capable of accepting and maintaining said slider in a proper orientation with respect to said disc,  
3 said disc being pressed against said disc by said suspension arm.

1 24. The system of claim 22, wherein said slider and said suspension arm are generally  
2 enclosed within said calibration standard.

1 25. The system of claim 17, wherein said bracing beams are Pattern Diamond-Like Carbon  
2 (PDLC).

1 26. The system of claim 17, wherein said mock slider is a wedge slider.

1 27. The system of claim 26, wherein said slider includes a film of overcoat.

1 28. The system of claim 17, wherein said mock disc is an optically transparent disc.

1 29. The system of claim 28, wherein said disc is glass.

1 30. The system of claim 17, wherein said observed distance between said slider and said disc  
2 is determined by optical interference techniques.

1 31. The system of claim 30, wherein said slider has one or more measurement scale markings  
2 upon a slider surface facing said disc, each of said markings associated to a respective actual  
3 distance from said disc.

1 32. The system of claim 31, wherein said comparison between said observed distance and  
2 said actual distance includes comparing the actual distance associated to a scale marking to an  
3 observed distance at that location.